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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
Peter Geistlich *et al.* ) Examiner: Unassigned  
Application No. 09/988,805 ) Group Art: 1617  
Filed: November 20, 2001 )  
For: RESORBABLE EXTRACELLULAR MATRIX  
FOR RECONSTRUCTION OF CARTILAGE

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INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Under the provisions of 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicants submit herewith copies of publications that the Office may wish to consider in examination of the subject application. The publications are listed on the attached form PTO-1449.

The relevance of any foreign-language reference for which an English-language translation is not provided is as follows.

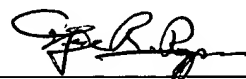
DE 196 54 884 A1 discloses a collagen structure.

FR 2 679 778 discloses a collagen structure.

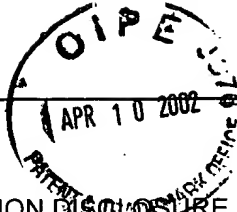
WO 97/32616 has an English-language abstract.

This statement is being filed before the issuance of a first Office Action on the merits, and therefore, no fee or certification is necessary.

Respectfully submitted,

By   
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Enclosures



INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

Complete if Known

Application Number	09/988,805
Filing Date	November 20, 2001
First Named Inventor	Peter Geistlich
Group Art Unit	1617
Examiner Name	Unassigned

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### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code <sup>2</sup> (if known)		
	AA	5162430	A	RHEE et al.	11/10/1992
	AB	5167961	A	LUSSI et al.	12/01/1992
	AC	5206023	A	HUNZIKER	04/27/1993
	AD	5413597	A	KRAJICEK	05/09/1995
	AE	5417975	A	LUSSI et al.	05/23/1995
	AF	5523348	A	RHEE et al.	06/04/1996
	AG	5541295	A	BARRACH et al.	07/30/1996
	AH	5567806	A	ABDUL-MALAK et al.	10/22/1996
	AI	5573771	A	GEISTLICH et al.	11/12/1996
	AJ	5624463	A	STONE et al.	04/29/1997
	AK	5759190	A	VIBE-HANSEN	06/02/1998
	AL	5837278	A	GEISTLICH et al.	11/17/1998
	AM	6153292	A	BELL ET AL.	11/28/2000
	AN	6221109	B1	GEISTLICH et al.	04/24/2001
	AO	6352558	B1	SPECTOR	03/05/2002

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee of Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T <sup>6</sup>
		Office <sup>3</sup> Code	Number <sup>4</sup>	Kind <sup>5</sup> (if known)			
	AP	WO	9005755	A1	Collagen Corporation	05/31/1990	
	AQ	WO	9013302	A1	Brigham and Women's Hospital	11/15/1990	
	AR	WO	9213565	A1	Robert F. Shaw	08/20/1992	
	AS	WO	9310722	A2	Research Development Foundation	06/10/1993	
	AT	WO	9311723	A1	Regen Corporation	06/24/1993	
	AU	WO	9319168	A1	Mt. Sinai Hospital Corporation	09/30/1993	
	AV	WO	9518638	A1	Ed. Geistlich Soehne AG Fuer Chemische Industrie	07/13/1995	
	AW	WO	9624310	A1	The Hosp. for Joint Diseases, Orthopaedic Inst.	08/15/1996	

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Applicant

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First Named Inventor

Group Art Unit

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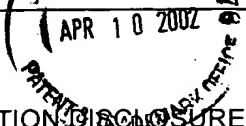
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		Office <sup>3</sup> Code (if known)	Number <sup>4</sup>	Kind <sup>5</sup>		
	AX	WO	9625961	A1	Ed. Geistlich Soehne AG Fuer Chemische Industrie	08/29/1996
	AY	WO	9732616	A1	Dr. Axel Kirsch	09/12/1997
	AZ	WO	9802976	A1	American Technology Corporation	01/22/1998
	BA	WO	9919005	A1	Ed. Geistlich Soehne AG Fuer Chemische Industrie	04/22/1999
	BB	DE	19654884	A1	Dr. Axel Kirsch	09/11/1997
	BC	FR	2679778	A1	Coletica	02/05/1993
	BD	AU	660045	B	Coletica	03/02/1993
	BE	AU	663150	B	Research Development Foundation	06/28/1993

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
	BF	H.A. BREINAN et al., "REPARATIVE TISSUES IN ARTICULAR CARTILAGE DEFECTS IN A CANINE MODEL TREATED BY MICROFRACTURE", 45th Annual Meeting, Orthopaedic Research Society, February 1-4, 1999, Anaheim, CA. (one page)	
	BG	C.R. LEE et al., "HARVEST AND SELECTED CARTILAGE REPAIR PROCEDURES AFFECT MECHANICAL AND BIOCHEMICAL PROPERTIES OF UNINVOLVED ARTICULAR CARTILAGE IN THE CANINE KNEE", 45th Annual Meeting, Orthopaedic Research Society, February 1-4, 1999, Anaheim, CA. (one page)	
	BH	C.R. LEE et al., "THE CONTRACTILE BEHAVIOR OF ARTICULAR CHONDROCYTES IN COLLAGEN MATRICES <i>IN VITRO</i> ", Tissue Engineering Soc., Dec. 4-6, 1998, Orlando, Fla. (one page)	
	BI	S.M. MUELLER et al., "ALPHA-SMOOTH MUSCLE ACTIN IN BOVINE MENISCUS CELLS SEEDDED IN TYPE I AND TYPE II COLLAGEN-GAG MATRICES", 44TH Annual Meeting, Orthopaedic Research Society, March 16-19, 1998, New Orleans, Louisiana. (one page)	
	BJ	S. NEHRER et al., "CHONDROCYTE-SEEDED TYPE I AND TYPE II COLLAGEN IMPLANTS INVESTIGATED <i>IN VITRO</i> ", Fifth World Biomaterials Congress, May 29-June 2, 1996, Toronto, CA. (one page)	
	BK	S. NEHRER et al., "AUTOLOGOUS CHONDROCYTE-SEEDED TYPE I AND II COLLAGEN MATRICES IMPLANTED IN A CHONDRAL DEFECT IN A CANINE MODEL", 44TH Annual Meeting, Orthopaedic Research Society, March 16-19, 1998, New Orleans, Louisiana. (one page)	
	BL	S. NEHRER et al., "CHONDROCYTE-SEEDED TYPE I AND TYPE II COLLAGEN MATRICES IMPLANTED IN A CHONDRAL DEFECT IN A CANINE MODEL", 7th Conference European Orthopaedic Research Society, Barcelona, 1997. (one page)	
	BM	S. NEHRER et al., "CHARACTERISTICS OF ARTICULAR CHONDROCYTES SEEDDED IN COLLAGEN MATRICES", Tissue Engineering 1998, pp 175-183 vol. 4(2).	

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<div style="text-align: center;">  <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> </div>				Complete if Known	
				Application Number	09/988,805
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Sheet	3	of	3	Attorney Docket Number	1194-199

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	BN	S. NEHRER et al., "MATRIX COLLAGEN TYPE AND PORE SIZE INFLUENCE BEHAVIOUR OF SEEDED CANINE CHONDROCYTES", Biomaterials 18, (1997), pp. 769-776.
	BO	DONNA SCHULZ-TORRES et al., "TENDON CELL CONTRACTION OF COLLAGEN-GAG MATRICES <i>IN VITRO</i> : EFFECT OF CROSS-LINKING", Soc. for Biomaterials, April 28-May 2, 1999, Providence, R.I. (one page)
	BP	T.O. SCHNEIDER et al., "EXPRESSION OF $\alpha$ -SMOOTH MUSCLE ACTIN IN CANINE INTERVERTEBRAL DISC CELLS <i>IN SITU</i> AND IN COLLAGEN-GAG MATRICES <i>IN VITRO</i> ", J. Orthopaedic Research In press, pp. 1-22.
	BQ	S. NEHRER et al., "CANINE CHONDROCYTES SEEDED IN TYPE I AND TYPE II COLLAGEN IMPLANTS INVESTIGATED <i>IN VITRO</i> ", J. Biomed. Mater. Res. (Appl. Biomater.), 1997, pp. 95-104, vol. 38, John Wiley & Sons, Inc.
	BR	S.M. MUELLER et al., " $\alpha$ -SMOOTH MUSCLE ACTIN AND CONTRACTILE BEHAVIOR OF BOVINE MENISCUS CELLS SEEDED IN TYPE I AND TYPE II COLLAGEN-GAG MATRICES", J. Biomed. Mat. Res., 1999, pp. 1-10, vol. 45, John Wiley & Sons, Inc.
	BS	Genzyme Tissue Repair, "CARTICEL <sub>™</sub> (autologous cultured chondrocytes), ENGINEERING A BETTER REPAIR", Genzyme Tissue Repair, 64 Sidney Street, Cambridge, MA 02139-4136, 9/97, brochure. (8 pages)
	BT	D. MUTTER et al., "BIOMATERIAL SUPPORTS FOR COLONIC WALL DEFECT HEALING", Biomaterials 17, 1996, pp. 1411-1415.
Examiner Signature		Date Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.